

### Abstract

A process of preparing water soluble or water swellable polymer comprising the steps,

(a) forming an aqueous mixture comprising,

(i) a water soluble ethylenically unsaturated monomer or blend of monomers and,

(ii) an ultra violet initiator,

(b) effecting polymerisation by subjecting the aqueous mixture formed in step (a) to polymerisation conditions to form a polymer of said monomer or monomer blend,

(c) subjecting the polymer formed in step (b) to ultra violet light radiation, characterised in that the polymerisation step (b) is conducted substantially in the absence of ultra violet radiation. In one preferred aspect the ultra violet initiator is distributed throughout the polymer formed in step (b). In another preferred aspect the step (c) is conducted ultra violet light at an intensity of up to 500 milli Watts/cm<sup>2</sup>. Also claimed is a method of reducing the residual monomer content in a water soluble or water swellable polymer by subjecting the polymer to ultra violet irradiation in the presence of an ultra violet initiator. The process is particularly suitable for making highly effective water soluble and water swellable polymers useful as flocculants, coagulants, rheology modifiers, dispersants, superabsorbents and binders etc.